



CUSTOMER ENGINEERING POLICIES AND PROCEDURES

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SUPERSEDES

Memo No: --Date: Page: SUBJECT: TECH TIPS -- PHOTO-READER TROUBLE SHOOTING AID

Are you troubled by a "tired" Photo-Reader? Do you lose a bit here and there? Does that all digit format on paper tape throw you when trying to spot a troublesome photo level?

1. When using a standard format to type out M19 which contains a block (e.g. the number track) read from an all digit tape format, it is difficult to spot a troublesome level.
2. It is sometimes desirable to obtain a typeout which is all digits and hence identical character by character with the read-in process. This allows quick pinpointing by inspection of a malfunctioning level.
3. An all digit format used in typing lacks a carriage return after the 29th digit. Simply inserting a carriage return in the format would precess M19 one bit every 29 characters thus changing M19's contents.
4. On page 2 of this memo is a program designed to type M19, 29 digits at a time and then carriage return. The contents of M19, however, will be previously stored in M18. After each 29 digits of typing, M18 is transferred to M19 and is precessed up four words. M19 is then returned to M18, and typeout of M19 (104-107) will occur. After 27 typeouts the program will halt.
5. The nature of the trouble demands that the program be typed in. Average type-in time for a non-typist = 2 1/2 minutes.
6. Page 2 contains the program, a normal typeout of the number track from M19 and a typeout with level #2 completely inoperative (an extreme case).
7. Page 3 contains the coding sheet.

Recent warm-up problems have been traced to the photo diodes. If you have such a problem, it would be worthwhile to check the alignment of the photo head with respect to the tape. If either are off center, the tape will wear a groove in the diode clamp block.

IN77A photo diodes are not to be used as a replacement in a IN77B photo diode block. If the computers you service have IN77B's only, return your IN77A diodes and use only IN77B's.

The IN77B Photo Diodes are slightly smaller in diameter than the IN77A Photo Diodes. It will therefore be necessary to wrap them with cellophane or something comparable to make them fit the existing diode blocks on the photo reader.

ALL DIGIT PHOTO-TAPE TYPE-OUT ROUTINE

sc7q0000000 0000000 0000000 4400000 /0180262 fi (Loads type-out format into M02)

0w01272 0w0021z 0u8u27v 0u0839z /
 090801z 080713z 0606253 060439z / (Loads Program into M00)
 050413z 80033v3- 68023v3 0101272 /0180260 fi

P (Reads in number track to M19)

scf GO (Executes program)

NORMAL

1414794z5v58003u9u8001x2x2000
 y86800073v380039998001wuwu000
 y46400071v190038988001w2w2000
 y0600006zuz80037978001vuvu000
 xw5w0006xux80036968001v2v2000
 x8580006vuv80035958001uuuu000
 x45400069u980034948001u2u2000
 x05000067u7800339380019u9u000
 ww4w00065u5800329280019292000
 w84800063u3800319180018u8u000
 w44400061u1800309080018282000
 w0400005z9z8002z8z80017u7u000
 vw3w0005x9x8002y8y80017272000
 v8380005v9v8002x8x80016u6u000
 v43400059998002w8w80016262000
 v03000057978002v8v80015u5u000
 uw2w00055958002u8u80015252000
 u8280005393800298980014u4u000
 u4240005191800288880014242000
 u0200004z8z800278780013u3u000
 9w1w0004x8x800268680013232000
 98180004v8v800258580012u2u000
 94140004989800248480012222000
 90100004787800238380011u1u000
 8w0w0004585800228280011212000
 88080004383800217180010u0u000
 84040004181800208080010202000

PHOTO-LEVEL #2 BAD

1414594x59580018988001x0x0000
 w848000519180019998001w8w8000
 w444000519180018988001w0w0000
 w0400004x8x800159580019898000
 xw5w0004x8x800149480019090000
 x8580004989800159580018888000
 x4540004989800149480018080000
 x0500004585800119180019898000
 ww4w0004585800109080019090000
 w8480004181800119180018888000
 w4440004181800109080018080000
 w0400005x9x8000x8x80015858000
 9w1w0005x9x8000w8w80015050000
 981800059998000x8x80014848000
 941400059998000w8w80014040000
 90100005595800098980015858000
 8w0w0005595800088880015050000
 88080005191800098980014848000
 84040005191800088880014040000
 80000004x8x800058580011818000
 9w1w0004x8x800048480011010000
 98180004989800058580010808000
 94140004989800048480010000000
 90100004585800018180011818000
 8w0w0004585800008080011010000
 88080004181800018180010808000
 84040004181800008080010000000

Notes:

1. Use the NORMAL all digit number track type-out as a guide and compare it with the questionable read-in by inspecting each of the digit columns vertically. Any picking up or dropping of bits in a particular level will be immediately apparent.
2. Do not i key commands 06 and 07. (see coding sheets)
3. The above program can also be used in checking magnetic tape input for a mal-functioning level.

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Line 00

Prepared by _____

PROGRAM PROBLEM: ALL DIGIT PHOTO-READER TEST TYPEOUT ROUTINE

**FORM
BCD
108-17.0**



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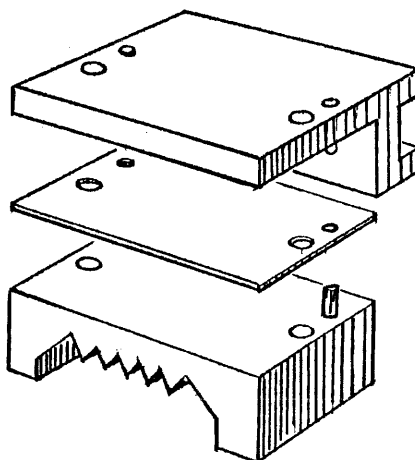
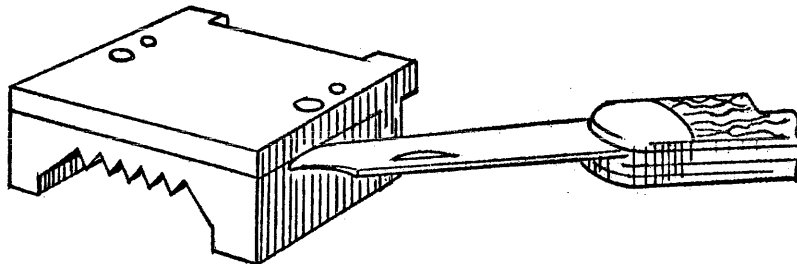
Date:

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SUBJECT: TECH TIPS -- PHOTO-READER TROUBLE SHOOTING AID

Modification of Diode Block Clamp Assembly

To be used with photo diode IN77B. Additional clamping support to prevent cracking of diode.



Instructions:

1. Pry clamp assembly apart.
2. Insert shim.
3. Press assembly together.